

Specification Amendments

Please amend the paragraph beginning on p. 6, line 6 as follows:

The fuel cell, according to the present invention, comprises a plurality of MEA (membrane electrode assembly) segments, each of which has a separate PEM (~~photon-exchange~~ proton-exchange membrane) and two electrode/diffusion layers for catalytic activation. As shown in Figures 2a and 2b, a fuel cell stack **100** comprises a substrate **140** having a plurality of openings **142**, and a plurality of MEA segments **110** securely attached to the substrate **140**, with each MEA segment **110** at an opening **142**. The substrate **140** is made of a material that is stiff enough to serve as a mechanical frame for supporting the MEA segments. At the same time, the material is also resistant to methanol. For example, the substrate **140** can be made of Teflon, or FR4 (a laminate made of woven fiberglass fabric saturated with an epoxy resin).